

**MDEP General Meeting
OECD – Paris September 15-16, 2011**

Codes & Standards Comparison

**Harmonization expectations
and key challenges for future developments**

**Cécile LAUGIER
AFCEN President**

The actors involved in Codes & Standards

Regulators

Standards Development Organization (SDO)



Utilities

Industry and Vendors

SDO ?

✓ SDO's have to :

- Assure High technical relevance and State Of the Art fitting for all disciplines
- Include all the construction and operation feedback
- Answer to different regulation:
 - Differentiate code and Authority requirement (Example: core part and annex of the RCC M)
 - Based on International or Recognized standards (Example: ISO, EN or ASTM standards)
 - Clearly identify Utility, Manufacturer, Supplier duties, whatever responsibilities are defined in national regulation. (Example: content of equipment specification)
- Gives tools to facilitate cooperation of the 3 other actors: at national and international level

✓ How?

- Harmonization of codes:
 - Codes should not be contradictory on technical rules
 - Codes should allow compatibility of practices, parts and components
- Open process of decision making and contributions
- Transfer of best and optimize practices to new generation of engineers

Status of Code comparison

- ✓ **Comparison done for class 1 – Vessel, Piping, Pumps and Valves**
 - Final report available in 2012
 - Important disclaimer:
 - *“The reader is reminded that each of the codes is a set of consistent rules. The requirements of one area may be and often are dependent on the requirements in other sections. Since a line-by-line comparison has been done it is tempting to judge the entire code based on the differences between these individual points, but this may not lead to a correct conclusion. This exercise identifies the different requirements of the different codes. It was not within the scope of this report to provide conclusions relative to the full implementation of the various Codes.”*

Status of Code comparison

✓ Identified Differences:

- Some are connected to national regulator requirements
- Some are technical : no Sound Of Art level
- Some are differences in Scope: mainly PWR / LWR, small components
- Some are connected to Standards refer International / National
- Some are related to ageing evaluation at design level
- Some are related to operation consideration at design level
- Some are connected to QA organization: in the Code totally or partly, referring to IAEA GS-R-3 / USNRC-NQA-1
- Some are differences in level of prescription
 - more prescriptive but open to equivalent alternative
 - less prescriptive but needs more supplementary specifications to be developed

How to reach Harmonization ?

✓ **Step by step process**

➤ Example:

- to work on Non Destructive Examination Certification of Personal in short or medium term; obtain a recognition of certification by each code;

➤ Be supported by Cordel on these short, medium terms issues.

➤ Be supported by Regulators for each harmonization objective, when they are in connection with regulation.

✓ **To be aware of solution of other codes for each new modification of any code; to avoid new contradictory rules.**

How to reach Harmonization ?

✓ To integrate commonly best industry practices:

- Some codes need important Third Party involvement
- Some codes are mainly based on Utility survey
- Some codes are mainly based on Regulator inspection
- Some codes are expecting a huge knowledge of Utility, through equipment specification requirement.

→ SDO have identified these differences, based on industrial, cultural, legal grounds: it's not a minor statement; technical differences are not the major ones!

→ Now, we know that nuclear industry is global, and best practices must be known and shared worldwide

→ Consequently a component, or a part of component, designed and fabricated with one Code, should be acceptable by Safety Authority for different International Project.

Safety Authorities must play their role to allow mutual recognition of different demonstrated best practices, whatever the code used.

Association Française pour les règles
de conception, de construction
et de surveillance en exploitation
des matériels des Chaudières Electro-Nucléaires

Thank you for your attention

French Association for
Design, Construction and Surveillance Rules
of Nuclear Power Plant Components

www.afcen.org